

the interpretation of what I have seen, I may refer to the testimony of a celebrated witness, who detected the same phenomenon long before me. This is Treviranus, who makes the following statement :—" In one of the *Phalangia* that I examined I found an ovary filled with eggs, but, instead of the laying-tube, a male genital organ. Hermaphroditism, which has often been observed in the Lepidoptera, appears, therefore, not unfrequently in the *Phalangia*" (*l. c.* p. 38).

This case, in my opinion, agrees exactly with those observed by me, if we only admit that the organ described as an ovary can have been nothing but the testis. And this will be the less doubtful when we consider that, as already stated, Treviranus certainly saw the testis, but was not in a position to recognize it as such.

As regards the ultimate fate of these eggs, there seems to be no doubt that, after persisting for a longer or shorter time, they disappear. In favour of this we may quote as an analogous example the case of some of our indigneous toads (*Bufo variabilis*, *B. calamita*, and especially *B. cinereus*), the males of which, according to the thorough investigations of Wittich, possess, besides a testis, a more or less rudimentary ovary*. From these investigations it appears clearly that the ova produced by this ovary, after attaining a certain degree of maturity, finally become aborted and disappear †.

XIX.—Descriptions of new Species of Crioceridæ.

By J. S. BALY.

Crioceris scabrosa, Baly.

C. elongata, subcylindrica, plumbea, subnitida, pube aureo-sericea brevi vestita; capite rugoso; antennis dimidio corporis longioribus, obscure rufo-piceis, basi et apice nigris; thorace sat profunde transversim strigoso, fere glabro, lateribus vix constrictis; elytris crebre rugoso-punctatis, elevato-reticulatis, reticulis fere lævibus, glabris, disco anteriore dilatatis, et ibi superficiem totam fere amplectentibus; tarsis obscure cyaneis; tibiis intermediis ad apicem incrassatis, intus curvatis.

Long. 4 lin.

Hab. Mexico.

Elongate, subcylindrical. Head not constricted behind the eyes; face subelongate, finely rugose, sparingly clothed on the

* "Beiträge zur morphol. und histol. Entwicklung der Harn- und Geschlechtswerkzeuge der nackten Amphibien," Siebold and Kölliker's Zeitschrift, Bd. iv. p. 159.

† Morphologically it is an interesting fact that the ovary in the above-mentioned toads occurs as a perfectly independent organ having no further connexion with the testis, whilst the seminal gland of *Phalangium* (especially in *P. opilio*) has completely the character of an hermaphrodite gland.

labrum, lower parts of epistome, and round the eyes with short, adpressed, aureo-sericeous hairs; front impressed with a deep fovea, on either side of which is a fine but distinct groove, which, commencing at the apex of the epistome, runs obliquely upwards on either side to surround the upper portion of the orbit of the eyes, but at a considerable distance from the eye itself; eyes not mounted on a raised orbit, rotundate, entire; antennæ slightly thickened towards their apex, moderately robust. Thorax cylindrical, slightly flattened above, subquadrate, its surface closely covered with deep, irregular, transverse grooves; just in front of the base, and again behind the apex, are two indistinct transverse depressions. Scutellum smooth, triangular, its apex obtusely truncate. Elytra much broader than the thorax, parallel, acutely rounded or almost angulate at their apex; subcylindrical above, slightly flattened along the back, obsoletely depressed transversely below the basilar space, their apical portion suddenly and obliquely deflexed; closely and somewhat finely rugose, closely clothed with short, adpressed, aureo-sericeous pubescence; whole surface (with the exception of the deflexed apex) covered with large, broad, raised, glabrous reticulations; on the anterior half of the inner disk these elevations become much dilated, and coalesce so as to occupy by far the greater portion of the whole surface. Body beneath clothed with coarser hairs than the upper surface; abdomen smooth, impunctate, each segment impressed on either side its centre with a deep fovea, from the surface of which springs a tuft of pale suberect hairs; hinder thighs extending rather beyond the apex of the abdomen.

Crioceris rugata, Baly.

C. elongata, nigra, nitida, thoracis dorso elytrisq; fulvis; antennis subfiliformibus, vix compressis et perfoliatis; thorace subquadrato, lateribus leviter coarctato, dorso rude punctato; elytris infra basin obsolete transversim depressis, profunde punctato-striatis, interstitiis basi planis, apicem versus subelevatis; scutello piceo, glabro.

Long. $3\frac{1}{4}$ lin.

Hab. Japan.

Head deeply constricted behind the eyes; forehead impressed with a deep groove; face triangular, closely covered with adpressed sericeous hairs; eyes deeply notched; antennæ half the length of the body, moderately robust, subfiliform, first, third, and fourth joints equal in length, fifth to the eleventh each half as long again as the fourth, equal, somewhat thickened and compressed, scarcely perfoliate. Thorax subquadrate, subcylindrical, sides moderately constricted in the middle, stained in front with nigro-piceous; upper surface deeply and coarsely punctured. Scutellum triangular, its apex truncate. Elytra much broader than the thorax, parallel, upper surface slightly

flattened along the suture, indistinctly depressed transversely below the basilar space, very deeply punctate-striate, interspaces impunctate, plane at the base, indistinctly rugulose on the transverse depression, distinctly thickened towards their apex, being subcostate near the outer margin and suture. Body beneath nearly glabrous, the pleura clothed with adpressed sericeous pubescence; abdomen smooth, impunctate, very sparingly furnished with subdepressed silky hairs. Hinder thighs not thickened, not extending beyond the second abdominal segments.

Very closely allied to *C. impressa*, smaller, much more coarsely punctured; antennæ more slender.

Crioceris ruficollis, Baly.

C. oblonga, nigra, nitida, collo thoraceque rufis, hoc vix elongatulo, subcylindrico, lateribus medio modice coarctato, dorso vage subremote punctato; elytris convexis, nigro-cæruleis, infra basin leviter transversim impressis, distincte sed tenuiter punctatis, interstitiis planis.

Var. A. Capite antice obscure rufo; antennis basi piceis.

Long. $3\frac{1}{4}$ lin.

Hab. Northern China. Collected by Mr. Fortune.

Face triangular, clothed with aureo-sericeous pubescence; antennæ moderately robust, slightly compressed, subperfoliate, more than half the length of the body. Scutellum rufo-piceous. Elytra broadly oblong, much broader than the thorax. Pubescence on the under surface of the body silvery white, that on the legs with a golden tint. Abdominal segments each with a transverse groove, which is clothed with a single row of suberect silvery hairs. Hinder thighs very slightly thickened, their apex not reaching beyond the apex of the third abdominal segment.

Lema quadriplagiata, Baly.

L. oblongo-elongata, fulva, nitida, subtus sparsim fulvo-sericea, ore supra nigro; antennis modice robustis, corporis longitudine brevioribus, articulo tertio secundo duplo longiore; thorace cylindrico, subquadrato, lateribus medio valde constrictis, dorso lævi, pone medium profunde transversim sulcato, disci medio obsolete lineatim punctato; elytris infra basin obsolete transversim impressis, sat fortiter punctato-striatis, striis ad apicem sulcatis, interspatiis postice elevatis, utrinque plagis magnis duabus obscure violaceis.

Var. A. Antennis (basi excepta) fuscis; corpore subtus fusco variegata.

Var. B. Elytris totis metallico-cæruleis.

Long. $2\frac{2}{3}$ lin.

Hab. Pachybouri. Collected by the late M. Mouhot.

This species may be separated from *L. histrio*, Clark, by the

following character:—In the present insect the third joint of the antenna is double the length of the second, whilst in *L. histrio* it is only from one-third to one-half longer.

Lema Adamsii, Baly.

L. elongata, subcylindrica, pallide fulvo-flava, nitida; capitis maculis duabus, thoracis maculis quatuor, quadratim dispositis, elytrorum maculis quatuor, duabus pone basin parvis, duabusque ante apicem magnis, pectore, femorum singulorum macula, tibiaram apice, tarsis antennisque nigris, his subfiliformibus, dimidio corporis longioribus, articulis duobus basalibus fulvo-flavis; thorace subquadrato, lateribus sat coarctato, ante basin transversim sulcato, disco lævi fere impunctato; elytris fortiter punctato-striatis, infra basin vix transversim impressis, interspatiis lævibus, antice transversim rugulosis, apice callosis.

Long. 3 lin.

Hab. Chusan. Collected by Mr. A. Adams.

The more robust, shorter, black antennæ, with the second and third joints nearly equal, will distinguish this species from *L. quadriplagiata* and *L. histrio*.

Lema Downesii, Baly.

L. subelongato-parallela, pallide fulva, nitida, antennis (basi excepta) tarsisque fuscis; scutello elytrorumque vitta suturali, ante apicem abbreviata, nigris; thorace elongatulo, basi transversim sulcato, lateribus vix pone medium modice constrictis, antice subgloboso, lævi, lateribus et disci medio fortiter subremote punctato; elytris infra basin haud transversim impressis, profunde punctato-striatis, interspatiis prope apicem elevatis, secundo octavoque apice cœuntibus callosisque.

Long. 2 lin.

Hab. Bombay; Bengal.

Thorax smoother and more swollen than in *L. suturella*; third joint of antenna one-half longer than the second, equal in length to the fourth.

Lema suturella, Baly.

L. oblongo-parallela, fulva, nitida, tibiis tarsisque infuscatis, pectore abdominisque basi nigris; antennis (basi excepta) fuscis; thorace cylindrico, lateribus medio modice constrictis, supra ante basin transversim sulcato, leviter irregulariter punctato; scutello piceo; elytris infra basin vix transversim impressis, fortiter punctato-striatis, interspatiis prope apicem costatis, linea suturali cyanea, ante apicem abbreviata, instructis.

Long. 2 lin.

Hab. Bengal.

Thorax less swollen than in *L. Downesii*, irregularly punctured; a longitudinal space down the middle of the disk, together with

the sides in front, more coarsely punctured than the remainder of the surface; third joint of antenna one-half longer than the second, distinctly longer than the fourth.

Lema concinnipennis, Baly.

L. elongata, parallela, subcylindrica, nitido-cærulea; antennis nigris, abdominis apice fulvo; thorace subquadrato, subcylindrico, lateribus medio modice constrictis, disco ante basin transversim sulcato, fortiter punctato, spatio longitudinali centrali lævi, fere impunctato; elytris infra basin transversim impressis, intra callum humerale sulcatis, punctato-striatis, punctis ad apicem minus fortiter impressis, interspatiis planis; antennis corporis dimidio longioribus, modice robustis.

Var. A. Abdomine corpore concolore.

Long. $2\frac{1}{2}$ lin.

Hab. Northern China.

Face subelongate; eyes deeply notched; lower portion of face closely subrugoso-punctate; forehead impressed with a short longitudinal groove, very finely punctured. Legs moderately robust.

Lema Psyche, Baly.

L. oblonga, valde convexa, chalybeo-cærulea, nitida; antennis pedibusque nigris; thorace subtransverso, cylindrico, lateribus medio modice constrictis, disco tenuissime punctato, basi impresso; elytris purpureis, robustis, thorace multo latioribus, infra basin transversim depressis, sat fortiter punctato-striatis, striis integris, interspatiis ad apicem convexiusculis, obsolete costatis; antennis gracilibus, filiformibus, articulis 3^o et 4^o æqualibus.

Long. 3 lin.

Hab. Northern India.

Face subelongate, vertex coarsely punctured; eyes notched; antennæ two-thirds the length of the body; transverse depression of elytra shallow, obsoletely wrinkled. Legs slender; thighs scarcely thickened.

The broad elytra and robust form of this insect at once distinguish it from its congeners.

Lema bipunctata, Baly.

L. subelongata, piceo-fulva, nitida; antennis (articulo basali prætermisso), scutello, thoracis vitta laterali, abdominis fasciis, tibiæ apice tarsisque nigris; elytris singulatim fovea infra basin, linea suturali alteraque marginali, apice abbreviata, chalybeis.

Long. $2-2\frac{1}{4}$ lin.

Hab. Port Natal.

Forehead impressed with a deep oblong fovea; antennæ half the length of the body, subfiliform, second and third joints each equal in length to the first, obovate. Thorax scarcely

broader than long, subcylindrical, sides moderately constricted just behind their middle, anterior angles acute, upper surface convex, transversely excavated in front of the base, distinctly punctured down the middle of the disk and along the anterior border. Elytra broader than the thorax, not transversely depressed below the basilar space, punctate-striate; interspaces towards the apex furcate.

Lema globicollis, Baly.

L. elongata, parallela, subcylindrica, picea, nitida; ore antennisque nigris; pectore, scutello thoraceque rufis, hoc elongatulo, basi constricto, antice globoso, fortiter punctato, utrinque spatio longitudinali impunctato; oculis nigris, prominulis, intus vix sinuatis; elytris cyaneis, dorso planiusculis, infra basin haud transversim impressis, fortiter punctato-striatis, interspatiis prope apicem elevatis.

Long. $2\frac{1}{4}$ lin.

Hab. India.

Head short; face triangular, concave between the eyes, the latter very prominent, globular, shining black; forehead nearly impunctate; antennæ scarcely equal in length to half the body, robust, gradually increasing in thickness towards their apex, basal joints pitchy. Thorax rather longer than broad, deeply impressed with subremote large punctures; a longitudinal space on either side the disk smooth, impunctate.

Lema Dia, Baly.

L. fulva, nitida; pectoris lateribus pedibusque obscurioribus, femoribus (basi excepta) abdominisque utrinque macula basali nigropiceis; antennis fuscis; thorace fere transverso, lateribus medio valde constrictis, dorso ante basin transversim sulcato, lævi, disci medio longitudinaliter tenuissime punctato; elytris obscure cæruleis, violaceo micantibus, infra basin transversim depressis, tenuiter punctato-striatis, punctis vix ante apicem deletis, interspatiis planis; limbo (basi excepta) fasciaque centrali fulvis.

Long. $3\frac{1}{2}$ lin.

Hab. Ega, Upper Amazons.

Head deeply constricted behind the eyes; face triangular; antennæ two-thirds the length of the body, slender, filiform, basal joint fulvous, second very short, third nearly twice as long as the second, fourth one-third longer than the third, the rest each equal in length to the fourth. Scutellum triangular. Elytra much broader than the thorax, suboval, their apex broadly rounded.

Lema ornata, Baly.

L. oblongo-elongata, subcylindrica, nigra, nitida; capite, scutello

thoraceque rufo-piceis, hoc vix transverso, cylindrico, lateribus medio modice constrictis, dorso lævi, ante basin transversim sulcato; pedibus antennisque pallide fulvis, his apice fuscis; elytris infra basin leviter transversim depressis, subfortiter punctato-striatis, interspatiis postice subcostatis, disco antico obsolete transversim crenulatis, flavo-albis, vitta brevi suturali ante medium abbreviata, plaga communi apicali et utrinque vitta lata à callo humerali longe ultra medium extensa, postice paullo ampliata, obscure cæruleis.

Long. 3 lin.

Hab. Guatemala.

Lema præclara, Baly.

L. subcylindrica, testaceo-fulva, nitida; capite (antennarum apice albo excepto), thorace basi et apice, tibiis tarsisque nigris; thorace subtransverso, lateribus medio sat valde constrictis, dorso lævi, ante basin transversim sulcato, disci medio tenuiter lineatim punctato; elytris læte purpureis, infra basin profunde transversim depressis, punctato-striatis, stria nona medio obsoleta, punctis apicem versus minus distinctis, interspatiis planis, ad apicem convexiusculis.

Long. 3 lin.

Hab. Nauta, Upper Amazons.

Lema Pithys, Baly.

L. elongata, subcylindrica, rufo-fulva, nitida, subtus aureo-sericea; antennis gracilibus, filiformibus, fusco-fulvis, apice pallidis; thorace transverso, pone medium strangulato; elytris nigris, infra basin et intra humeros impressis, disco exteriori pone medium foveolatis, punctato-striatis, striis postice sulcatis, stria nona medio late interrupta, callosa, interspatiis antice planis, crebre sed tenuissime crenulatis, postice costatis.

Long. $3\frac{1}{2}$ –4 lin.

Hab. S. Paulo, Upper Amazons.

Antennæ nearly equal to the body in length, second and third joints equal, each more than twice the length of the second, fourth equal to the two preceding united, fifth and following joints nearly equal, each somewhat shorter than the fourth. Thorax broader than long, deeply constricted behind the middle, smooth, impunctate. Scutellum triangular, its apex truncate. Elytra longitudinally sulcate within the humeral callus, transversely excavated near the suture below the basilar space, interspaces strongly costate behind the middle of the elytra; ninth stria from the suture broadly interrupted, the interrupted portion costiform; on the inner side of this costa, near its apex, is a broad shallow fovea which extends across several of the adjacent striæ.

Lema Idalia, Baly.

L. elongata, subcylindrica, rufo-fulva, nitida, subtus aureo-sericea; antennis elongatis, filiformibus, fulvo-flavis; thorace vix transverso, lateribus medio sat coarctato, pone medium transversim sulcato, lævi impunctato; elytris læte violaceis, nitidissimis, infra basin et intra humeros impressis, tenuiter punctato-striatis, stria nona medio late interrupta, interspatiis planis, lævibus, postice obsolete convexiusculis.

Long. $3\frac{1}{2}$ lin.

Hab. Upper Amazons.

Antennæ rather shorter than in *L. Pithys*; otherwise in form and structure very similar. Thorax less transverse, less deeply strangulated.

Lema pulchra, Baly.

L. subcylindrica, testaceo-fulva, nitida, subtus aureo-sericea, antennis, genibus, tibiis tarsisque nigris; elytris infra basin transversim depressis, punctato-striatis, striis ad apicem subsulcatis, interspatiis postice convexis, stria nona medio late interrupta; læte violaceis, apice pallide fulvis.

Long. 3 lin.

Hab. Nauta, Upper Amazons.

Face elongate-trigonal; epistome and labrum clothed with coarse yellow hairs; eyes obliquely notched; antennæ slender, filiform, nearly as long as the body. Thorax cylindrical, subquadrate, sides moderately constricted in the middle; upper surface smooth, impunctate, impressed before the middle by a broad transverse sulcation. Hinder thighs slightly thickened, extending nearly to the apex of the abdomen.

Lema Latona, Baly.

L. rufo-fulva, nitida; antennis pedibusque (femoribus basi et infra exceptis) nigris; thorace lævi, transverso, lateribus medio constrictis, dorso ante basin transversim sulcato; elytris infra basin leviter transversim depressis, punctato-striatis, striis ad apicem distinctis, interspatiis ad latera et ante apicem costatis; læte violaceis, vitta lata laterali pone medium valde angustata rufo-fulva.

Long. $3\frac{1}{4}$ lin.

Hab. S. Paulo, Upper Amazons.

Head deeply constricted behind the eyes; face triangular, front impressed with an oblong fovea; antennæ moderately slender, filiform, slightly tapering towards their apex.